



THOMAS G. NEWMAN,
EDITOR.

Vol. XXVI. Sept. 27, 1890. No. 39.

Fall Flowers have been blooming nicely, but the weather has been too cool for the bees to gather much honey from them. The crop is short—very short—not only of white honey, but of the darker, from fall flowers. Prices should be good.

Mr. L. G. Reed, at Kent, O., while we were there last month, called our attention to the best honey-producer that was then blooming in his vicinity. He procured a large branch for us, and desired to have its name mentioned in the AMERICAN BEE JOURNAL. It is one of the balsam family—the *impatiens Noll-me-tangere*. It is also called "touch-me-not," because to squeeze it, even gently, causes the "pod" to collapse. It produces both pollen and honey.

The Rev. L. L. Langstroth is improving in health, as will be seen by the following quoted from a letter just received from his daughter, Mrs. Anna L. Cowan, dated at 928 Steele avenue, Dayton, Ohio:

MR. THOMAS G. NEWMAN—*Dear Friend:*—You will, I am sure, be glad to hear of the improvement in my father's health. He is yet very far from being well, but "the dark cloud" of sorrow and disease is much lightened; and I am not without hope that it may soon pass away, leaving him once more bright and happy, and able to enjoy life.

We know that our readers will be very glad to learn that our esteemed friend Langstroth has even partially recovered from his malady, which has for such a long time had almost complete mastery over him. Of course there have been a few seasons when he has, for a short time, at least, had some little relief from the disease. We hope now that the "head trouble" will return again no more.

This news about Father Langstroth will be most welcome to all our readers.

How Strange it is that those who copy articles from other papers cannot do so without perverting them. On page 471 we published an essay by Mr. H. F. Moore, which was read before the Ohio State Convention. Mr. Moore took strong grounds against the repetition of the Wiley lie, about the manufacture of comb honey, and said: "No greater curse to the bee-keepers of our land can be imagined than the much-written-about Wiley lie." He clearly showed that it was a myth, and that it was a great curse for local papers to copy items about it, and thus give some color to the Wiley lie.

Now comes the Orange Judd Farmer of last week, and on page 162 it copied Mr. Moore's essay, and inserted sub-headings in full-face type, one of which reads: "Manufactured Honey is on the Market." This is in direct opposition to the tenor of the article, and the views of the writer! To make it still more offensive, the Farmer changes one of Mr. Moore's sentences to this: "To be plain, the general public is perfectly aware that lots of manufactured honey is on the market."

The sentence is garbled! Mr. Moore did not use the words "perfectly aware" at all! The rest of the sentence was used simply to state the fallacy of the blind belief of the general public, and to show how they "hedged" when asked for proof, and admit that it was *their guess*, or a current report, *instead* of being based upon their knowledge.

The Orange Judd Farmer will, no doubt, be glad to make the correction as soon as Mr. Judd sees this item.

Mr. A. C. Tyrrel, of Madison, Nebr., asks us to say in the BEE JOURNAL "what amount is to be paid, and what steps are necessary to be taken to procure medals awarded at the Paris Exposition." We are sorry to say that we know nothing more on the subject than is found on page 212 of the BEE JOURNAL. This we do know, that medals awarded in Europe are very seldom obtained by those to whom they are awarded. We were awarded one eleven years ago in Austria, but have not yet received it. The Department of Agriculture may be able to give some information on the Paris awards.

Dr. A. B. Mason judged the "farmers' products" at the Ohio State Fair last week, including the honey exhibit. As the Toledo Exposition was held at the same time as the Michigan State Fair, he was obliged to decline to serve at the latter, though he had served as judge for it for five years.

Those Who Have any honey to dispose of should use the Honey Almanac as a salesman. We have a few left for this year, and offer them at half price. See page 655 of this paper.

Wide Frames.—Mr. F. D. Lacy desires to call attention to the following correction of an error in his article, which appeared on page 634 of last week:

In my communication in the AMERICAN BEE JOURNAL, on page 634, by mistake it reads that "I placed in the upper (of a certain hive referred to) seven brood-frames." It should read *seven broad frames*, and I should have added, "each containing eight section-boxes."

The public would think that I very much exaggerate, to say that I took 70 pounds of comb honey from seven brood-frames, and regard me as not a very excellent bee-keeper to do it in that way. Why I more particularly refer to it is, to gently cite all bee-keepers who are accustomed to the use of section-boxes without division-boards to the inconvenience of having the comb built out even with the edge of the section-box, and beyond, and the annoyance of handling honey in that way.

The slight difference between *o* and *a* in writing is responsible for the printer's error. Had they been called *wide frames*, as usual, the error would not have occurred.

The Fair at Racine, Wis., was a success. Mr. F. A. Gibson had an excellent exhibit, and was awarded 16 first premiums on honey, fruit, vegetables, etc. The Racine Times remarks as follows about his exhibit:

F. A. Gibson has the finest exhibit in the fruit and vegetable department ever seen in the main building. He has a fine display of extracted and comb honey, also a hive of bees on exhibition. He has been granted the right to sell his stock during the Fair.

Do Not Sell Honey at too low a figure, for it is a scarce article, and should bring a good price. But we must add: Do not hold the comb honey too long, but sell at the right time, when the prices are at the top. Comb honey should not be sold at retail for less than 25 cents per pound, and extracted honey should retail at not less than 15 cents per pound. Honey is well worth these prices.

The Fair at Lansing, Mich., was a very successful one. So writes Mr. H. D. Cutting, who knows what he is talking about. He adds: "I go to our County Fair, then I have done for this year." The hard work done at several Fairs for this season will make the coming rest welcome, for friend Cutting is a *worker*.

New Subscribers can have the BEE JOURNAL and the ILLUSTRATED HOME JOURNAL from now until the end of 1891 for \$1.35. This is a rare opportunity of clubbing two valuable periodicals for a slight advance upon the price of one, and getting the rest of this year free.

Feeding the Bees, if it is necessary, should be done during the coming three or four weeks. Give it to them as fast as they will take care of it.

September and the Bees.

BY W. P. DOLE.

Shorn harvest-fields lie warm beneath the glow
Of cloudless light that holds the charmed trees
In dreamy trance; an idle, vagrant breeze
Just kisses the calm river's face below.
Nor tempts this upland air—seeming to know
How Nature here at length doth take her ease,
Where, of the hive forgetful, drowsy bees
From lingering clover-blossoms fly droning slow
On lazy wings, deep in soft couch to hide
Of regal golden-rod. My aimless feet
Rouse silent grasshoppers, which start aside,
As wary skirmishers a space retreat;
Nor boast nor bird, with sound of strife or mirth,
Breaks the sweet spell that rests on all the earth.
St. John, N. B. —Selected.

Judge W. H. Andrews, of McKinney, Texas, died on Aug. 6, 1890, of paralysis. He was an experienced bee-keeper and an interesting writer, and in his death the apiarists of Texas have sustained a great loss.

We Regret to learn that Jacob T. Timpe, of Grand Ledge, Mich., has been laid up with the typhoid fever, malaria and *La Grippe*. This will explain the delay in filling orders.

Moth-Worms and Comb Honey.

—Mr. J. C. Bechtold, Bippus, Ind., asks the following question to be answered in the BEE JOURNAL:

How must I put up honey (such as in brood-frames and brood-combs) for spring feeding, to keep moths or worms out of them? I was very much bothered last spring with worms in my frames of honey.

We are not sure that we catch the idea Mr. B. wishes to convey. If the combs of honey are taken out of the hive in the fall and put away "for spring feeding," there will be no danger of the ravages of the moth, for the worms cannot develop without warm weather. It is true that they will live a long time in a dormant state, if not killed by a freezing temperature of 15 or 20 degrees, Fahr.

If the combs of honey are removed in the spring or summer, to be kept over until the following spring for feeding purposes, they should be hung up, two or more inches apart, in a room, and thoroughly fumigated with sulphur, and this should be repeated as often as necessary.

Preparing Bees for Winter.

Mr. Thos. A. Anderson, of Gamma, Mo., writes thus in reference to this subject:

In the second paragraph of the article by Prof. Max Brose, on page 612, is a statement which, aside from the rest of the article, is very misleading, viz: "At least 4 frames should be covered with young bees, and 35 pounds of sealed honey." It is impossible to confine bees to 4 frames and have 35 pounds of honey. As I was misled in my earlier experience by similar statements, I call attention to this. No greater mistake can be made in preparing bees for winter, than to allow more space than the cluster will cover.

Orange-Blossom Honey—Melissa, etc.—Mr. W. M. Crutcher, of Zellwood, Fla., writes thus about "orange-blossom honey":

I saw on page 580 of the BEE JOURNAL, an item taken from the *Rural Californian*, headed "Orange-Blossom Honey." Now I do not deny that there may be many vile compounds sold by grocers for orange-blossom honey, but it is a mistake to say that there is "no such thing as orange-blossom honey." If you were here when the orange-trees were in bloom, and could see the bees swarming on them, and then taste the honey, you would be convinced that what I say is true about it.

The *Rural Californian* forgets that there is another State in America that produces orange-blossom honey, and it is strictly pure, too.

The *Rural Californian* may be correct as far as California is concerned, but the orange-blossom honey in this part of Florida (Orange county) is as pure as you can get it. There is no other honey-plant in bloom here before or at the time the orange-trees are, so the honey must be pure.

The next honey we get is palmetto; it is not as fine as orange-blossom honey, and is darker. I know of no other of any value for surplus honey. Cow-peas produce enough for bees to live on. A neighbor bee-keeper sent some orange-blossom honey to Mr. A. I. Root, to sample, and he reported that it was equal to clover honey.

I think that Florida is a good place for bee-keepers; there is no bother about wintering the bees, for it is never cold enough to take them in. I think that 5 or 6 cents a pound for honey is giving it away. The people of Florida have had a sore lesson by shipping their oranges to commission merchants. If the bee-keepers had some other way to dispose of their honey, I think that they would get better prices.

What time of the year and how should we plant melissa?

We had a very poor season this year for honey, as the drouth last spring ruined the honey crop in this section.

What time do you put the second story on the hive for surplus honey?

The remarks about obtaining orange-blossom honey, unmixed with nectar from some other flowers, was based upon the California product and climate, and evidently Florida was not thought of in that connection. We are glad to learn that Florida can give us the pure, unmixed orange-blossom honey.

Perhaps Mr. A. C. Tyrrel, of Madison, Nebr., will tell us when and how to plant melissa.

When the hives are full of worker bees, and the honey-flow is abundant, is the time to put on supers.

The International American Bee Association will meet in Keokuk, Iowa, Oct. 29, 30, and 31. Parties desiring to attend will please write to the Secretary for copies of the programme and for railroad and hotel rates. As this is the first meeting west of the Mississippi, in the twenty years of the existence of the Association, a large attendance is expected, especially as our leading publishers and a number of bee-keepers of note will be there. All communications should be addressed to C. P. Dadant, Hamilton, Ills.

Use a Veil.—Mr. W. M. Barnum very sensibly remarks thus in the last issue of the *Farmers' Magazine*, under this heading: "Don't be Afraid to Wear a Veil."

As the Irishman said, "A man can get used to 'most anything, if it only lasts long enough." With a bee keeper, stinging generally lasts long enough so that he "gets used to it." It is so in my case. Bee-stings cause me very little pain, and generally no inconvenience, except when I get a stray "jab" in or near the eye. I need my eye-sight as much as my wits, and hence I believe in being "green" enough to wear a veil when circumstances require one.

It is well while at work among the bees to have a bee-veil handy. We have found this to be a good rule to follow, and the best "bee-veil," by-the-way, is "the Globe," manufactured by Thomas G. Newman & Son, Chicago. We have used this Veil for years, and have found it to answer the purpose the best of any. All timid or nervous persons should invariably wear one. Good eyes are too scarce to wantonly neglect, in any way.

A B C of Strawberry Culture is the name of a neat pamphlet of 150 pages, by Messrs. T. B. Terry and A. I. Root. It covers the whole subject in an interesting manner, is nicely illustrated, and is just the work for those beginning to grow delicious strawberries. Price, postpaid, 40 cents. For sale at this office.

Congress ought to abolish Postal Notes, and authorize the issuance of Paper Fractional Currency. It is much needed to safely carry on the business of the country done through the mails.

The Inter State Hay Palace will be held at Momence, Ills., Oct. 1 to 11, 1890. Forty-two dollars are offered as premiums on bees and honey.

Dr. A. B. Mason, of Auburndale, O., wrote us as follows, a few days ago:

The HOME JOURNAL is so bright, clean in make-up, and tone of its contents, that I wish every home in the land could be visited and blessed by it every month, and it is now so very cheap in price that "everybody ought to subscribe. Mrs. M. and the "baby" try to see which shall have the first look at it when brought from the post-office, and it generally terminates in a "draw game," both sitting down together and taking a good look at its contents.

The Globe Bee-Veil is just "a dandy." The first few times I used it I did not just like it, but now that I have got the "hang of it," I like it. I can sit out-of doors now, in the shade, and read and bid defiance to the "pesky flies," and if (by chance) I fall asleep they cannot disturb my "sweet slumbers" and dreams by "waltzing" around on my face.

Handling Bees.—This is the title of a nice pamphlet containing 28 pages and a cover, published by Chas. Dadant & Son. It is a chapter from their book, *Langstroth Revised*, and is an excellent thing for beginners. Price, 8 cts. For sale at this office.

The Agricultural Experiment Station of the University of Illinois was established in the spring of 1888 under an act of Congress providing for the establishment of such stations in the several States and Territories, and appropriating \$15,000 per annum to the support of each. The purposes of the stations are thus prescribed in the act:

That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories.

The act provides further:

That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to..... such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports of said stations shall be transmitted in the mails free of charge for postage.

Bulletin No. 10, "Investigations of Milk Tests," and Bulletin No. 11, "Experiments with Wheat," have been recently issued by this Station in compliance with the law, and these and bulletins hereafter published will be sent, free of all charges, to all persons in the State actually engaged in farming, who will address a request for them to the "Experiment Station, Champaign, Illinois."

Nature's Original Package of honey in the comb is thus described by Mr. L. H. Wilcox, of Hastings, Minn., in the *Farm, Stock and Home*, an excellent farm paper published at Minneapolis:

In these degenerate days of glucose syrup, poisonous vinegar and other adulterated foods, there is added luxury to the delicious cake of comb honey when we consider that here at least we are getting our food from "Nature's original package," undefiled by the arts and sciences as applied to modern business methods.

Are you Going to the Fair? If so, will you kindly send to this office and get a few samples of the BEE JOURNAL, and give them out to your friends there, and get up a club? We will send them to you with pleasure.

QUERIES REPLIES.

Management when Two Queens are in a Hive.

Written for the American Bee Journal

QUERY 781.—1. When two or more swarms are hived together, what plan is most generally adopted by bee-keepers to destroy the surplus queen, as hybrid queens are difficult to find? 2. Supposing two queens should enter the hive, what would be the result? Would a part swarm again, or would one queen kill the other?—Ontario.

1. I find and kill her. I do not find it difficult to find hybrid queens. 2. One queen would be killed.—A. B. MASON.

1. I do not know what plan is generally adopted. 2. Either one queen will kill the other, or the bees will destroy one.—M. MAHIN.

1. You will generally find the queens balled, and can find out which queen you want to destroy. 2. No—the bees or one queen will kill the other.—P. L. VIALLO.

1. I always find the queen and kill her. 2. One would usually be killed. Rarely both live peaceably together. They would not swarm.—A. J. COOK.

1. The bees are generally allowed to take care of the queens. 3. Generally one queen would be killed, but occasionally neither will be killed, and a swarm will issue with one.—R. L. TAYLOR.

They generally allow the bees to destroy the extra queen unless one of the queens is much better than the other. When two queens enter one hive, one of them is generally killed by the bees.—DADANT & SON.

1. I think the plan most generally adopted is to have one swarm "together." If I cared anything for my queens, I should have the swarms singly. If not, I would let them fight it out when obliged to do differently. 2. One queen will kill the other.—EUGENE SECOR.

1. I think they usually let the bees attend to it. All hybrid queens are not difficult to find. 2. Probably neither. The bees would be likely to kill one of the queens. If one or both of the queens were virgins, then one queen might kill the other.—C. C. MILLER.

1. I destroy the poorer queen in such case, unless I have use for her in some other colony. 2. With two strange queens hived together, the result would usually be that one of them would be destroyed by the other, the weaker "going to the wall."—J. E. POND.

1. The plan usually adopted by bee-keepers is to let the queens fight it out. 2. Usually one will be balled, and soon killed by the bees—if not so destroyed, one queen will swarm out in a day or two, taking all the bees with her, and the other queen, too.—C. H. DIBBEN.

1. The queens can almost always be found by the bees balling them. Pick out the queens from the balls of bees—save and cage the best one, and introduce in order to run no risk of her being killed. 2. Sometimes they swarm out; and often one queen may kill the other. I have known the bees to ball both queens to death.—J. P. H. BROWN.

1. Look over your bees as they run into the hive, and pick out the queen you wish to destroy, or else take your chances. 2.

One of the queens would kill the other after a few hours, unless some of the bees did it for them. It would not be apt to result in a division of the bees—a part swarming out.—JAMES HEDDON.

1. Let the bees take care of that matter, unless you have a choice as to which queen lives. If so, hunt out the poor one and kill her. 2. One queen would kill the other. Get a book on bee-keeping, and post up. In these days of cheap literature, no one should be ignorant of the first principles of apiculture.—G. M. DOOLITTLE.

1. I cannot tell. In our own apiary, when we have "two or more" swarms, if we see an extra queen we catch and cage it; if an inferior one, we take her head off. 2. Sometimes one is killed either by her rival, or by bees of the other swarm, in which case they unite; otherwise they all swarm out again, and each swarm will cluster with their queen.—MRS. L. HARRISON.

1. Spread a good-sized piece of old rag-carpet on the ground, and throw the swarm upon it when the queens can all be found. 2. Both queens would be balled, and one of them be finally killed by the bees. I think that the queens rarely get together. Should one of the queens escape from the hive, her own bees are sure to find her and swarm out.—G. L. TINKER.

1. If there is no choice in the queens, let the bees settle the matter. If there is, find the poorest one and kill her. 2. Then one queen would be killed.—THE EDITOR.

Convention Notices.

☞ The Southwestern Wisconsin Bee-Keepers' Society, will meet on Oct. 8, 1890, at the residence of E. France, Platteville, Wis. B. RICE, Sec.

☞ The annual meeting of the Union Bee-Keepers' Association, will be held at Hamilton, Ill., on Oct. 10 and 11, 1890. A good time is anticipated. DANIEL SHANK, Sec.

☞ The 8th semi-annual meeting of the Susquehanna County Bee-Keepers' Association will be held at Montrose, Pa., on Thursday, May 7, 1891. H. M. SEBLEY, Sec.

☞ The fall meeting of the Central Michigan Bee-Keepers' Association, will meet in the Pioneer Rooms, Capitol Building, Lansing, Mich., on Wednesday, Oct. 15, 1890, to commence at 10 a.m. W. A. BARNES, Sec.

☞ The next meeting of the Turkey Hill Bee-Keepers' Association, will be held at the Turkey Hill Grange Hall, near Wilderman's Station, three miles southeast of Belleville, Ill., on Oct. 30, 1890. All interested in bee-keeping are cordially invited. A. FEHN, Sec.

The Florida Sub-Tropical Exposition will open about the second week in January, and will continue for a season of 12 to 15 weeks. The Exposition makes a special feature of tropical and semi-tropical fruits and flowers, and all products of Florida. The display this season promises to be an exceedingly valuable one. Full particulars may be obtained of S. A. Adams, Secretary, Jacksonville, Florida.

A Portrait of Speaker Reed, and a full-page picture of the Ways and Means Committee of the House of Representatives, which formulated the McKinley Tariff Bill, are included amongst the illustrations accompanying an interesting and spicy article on "The House of Representatives," by Frederick S. Daniel, in the October number of "Frank Leslie's Popular Monthly."

BIOGRAPHICAL.

JAN SWAMMERDAM.

The following biographical sketch of the noted Holland anatomist and discoverer of queen-bee maternity, was translated from the *Deutsche Illustrierte Bienenzeitung*, by Rev. Stephen Roese, of Maiden Rock, Wis., for the AMERICAN BEE JOURNAL:

On perusing the history of apiculture of ancient date, we meet, 400 years before Christ, the great philosopher Aristotle, who made the honey-bee a special object of his studies, and facts discovered by him have not been fully realized until the present century; and the many writers who treated on apiculture after him, were chiefly poets, such as Virgil, and economists like Columella, Paladius, etc.

The middle age of the world added nothing new to the cause, for in convents and universities the classical writings were studied and explained chiefly, but more in the letter than in the spirit. At the close of the Middle Age, it could truly be said that since the days of Aristotle, the knowledge of apiculture had not been advanced in the least. This assertion may seem strange to some, but it is nevertheless an undeniable fact.

In the 10th century appeared a number of works on apiculture, but they contained nothing new concerning the nature of the honey-bee; but in the century following, a man appeared on the stage of action, whose deep, searching mind gave to the world the first lessons relative to the nature and species of the honey-bee, and this man's name was Jan Swammerdam—a Hollander, born in 1637, in Amsterdam, who shared the same fate, like many great discoverers before and after him—like Columbus, Harvey and Hahnemann—during his life-time his service and great discoveries were not appreciated, and the difficulties he had to encounter were so great, that his latter end might well be called a miserable one; the after-world reaping the benefit of his labor and toil, and ungrateful like in all other cases, his person and real worth were soon forgotten, and even the bee-keeping fraternity, for whom he had done so much, did not pay due respect to his memory according to his real worth, although he did not devote his whole life-time to apiculture like Francis Huber, later; but what he did do, is so praiseworthy that he justly deserves the title as the first and greatest discoverer in apiculture of all past ages.

And who was this man? and what did he do for this honest industry and art? These are two questions of great importance, the answers to which are given in brief as follows:

Jan Swammerdam was born in the year 1637, in a naturalist's cabinet, which fact prepared the way for his future calling. His father was a chemist and naturalist, who gathered with unceasing effort everything that sailing vessels brought from both Indias, in curious animals, plants, minerals, and all specialties which could be found in Europe, and in this chaos of nature's wonders and rarities, Swammerdam spent the days of his youth, and received his early impressions and first love for research and knowledge of nature.

Young Swammerdam resided in the heart of Amsterdam—the Babylon of



Jan Swammerdam.

commercial centre in Holland, like Robinson on his island, to devote his whole lifetime to the study of nature and its hidden wonders, and he soon started out on his journey through the Netherlands, for search and gathering of insects.

His father being a devout naturalist, and gatherer of insects, yet he did not approve of his son spending his life-time in the study and gathering of the same, for it was his wish that he should study medicine, for which purpose he sent him to the University at Leyden. The practice and knowledge of medicine in those days was very limited, and the untiring spirit of the young Hollander resolved to dig through the surface of medical knowledge to its very foundation, and his motto was, How can we heal the sick if we have no knowledge of the healthy? and if we once know the organism of man, who stands on the upper round of the ladder in the animal kingdom, is it not important to know and understand the

organism of the animal and insect creation below? and with this object in view, young Swammerdam was led step by step to the most fruitful discoveries of all ages.

In the year 1610 Galileo had received a magnifying glass, with which he constructed a telescope; this instrument he turned upward and saw in the sky, planets far and near. Swammerdam took the glass and turned it downward, and saw the world and its wonders, as no man ever did before; until then, learned men and philosophers had depended more upon their own senses, but now, by the aid of this mighty and powerful instrument, the learned perceived that they had not only seen the most hidden wonders of the world, but had greatly labored under mistaken ideas. It can therefore justly be said that Swammerdam was the first man who constructed the first practical microscopic instrument.

Swammerdam was then young, and a simple student of the University at Leyden, when he discovered the higher and lower order of living beings. He was the first man who discovered the maternity of the female and insects, and understandingly explained the same without entering upon the first subject (the female), which does not belong here, but is fully given and explained in his work, *Miraculum naturæ seu uteri umliebris fabrica* (Leyden 1672); but in the latter (insect) case it is important to remark, and of interest, that after carefully dissecting, he proved that the (then called) "bee-king" was a female, and the mother of the whole colony in the hive, and the drone the male bee. This proved a great advance step in apiculture, which astonished the world, and is alone enough to immortalize the name of Swammerdam throughout all ages.

Swammerdam did not stand still at this discovery, but dissected each and all species of bees, and obtained the most microscopical discoveries.

Swammerdam was at this time not perfect, but adhered to several gross errors for some time, which could not be expected otherwise. He advocated, for instance, three different kinds of eggs—queen, worker and drone; and he further believed in a sad spending of the drone to fertilize the queen. He practiced artificial swarming and artificial queen-rearing. In the month of April he would take the queen with a quantity of worker-bees, and transfer them to another hive where the new colony soon began to build new combs, and as soon as a new queen had been reared in the parent hive, he took her away again and did as before, and as a result, a favorable season would produce from 10 to 15 nucleus colonies.

Swammerdam did not only study the life of the honey-bee, but also that of other insects, and likewise he declared the maternity of the ant.

These were great discoveries which revealed to man the great secret of higher insect life, and initiated mankind into the motherly character of their societies, which support no monarchical government, but motherly republics, and immense public cradles, from which each colony in due time sends forth a new nation. But how did Swammerdam make known to the world his great discoveries? This proved a precipice on which his life and being was dashed to pieces.

Young, and without academic diploma nor friends, he lived secluded in his cabinet of study, not only during his times of study, but also later; he was destitute of means to publish his great works of discoveries. The professors of the University at Leyden were against him, and laughed at the idea of a novice and simple student making such discoveries, which had thus far baffled the skill of his superiors, and they scorned the idea of him arising on a level with them, or rather above them.

His father left him in a critical condition, and without any means, and had it not been for the sympathy of his friends he would have been unable to carry his great work to perfection.

Swammerdam at last resolved to go to Paris to demonstrate and make known his discoveries, and in the midst of a society of learned naturalists, whom the great traveler, Thevenot, a Frenchman, had called together at Issy. At this time the Grand Duke of Toscona called him to Florence, but the misfortune of Galileo prevented his journey into Italy, however; in France was no safety for him, for the Mistiker Morin was burned alive at Paris that year—1664.

At the age of 32, through over-exertion and sorrow, he fell into occasional fits of melancholy, which hastened him to any early grave. His eyesight failed in 1667, while he prepared a manuscript on metamorphose of insect life for publication. This work alone should have immortalized him to the after world, but it hurried him into the great danger of starvation. His father denied him all aid and help, and received him not even in his home. A wealthy friend had formerly urged him to come and share a home with him, but when Swammerdam reminded him of this, the friend had no recollections of such an offer. Misfortune after misfortune befell him, poor and sick he wandered in the streets of Amsterdam, not even knowing where to deposit his documents of research and discoveries for safety, to

say nothing of a roof to shelter him; and the last and greatest misfortune befell him—the ruin of his country, even the ground under his feet was to give away from under him.

It was the year of 1672, when Holland fell a prey to the French invasion by Louis XIV. This country had thus far no blessing in store for Swammerdam, but it was the birth-place of a natural philosopher and great discoverer, and common sense and an asylum of deep thinking, and now his country is first swallowed up by French invasion, and next by water.

It seems that Swammerdam could live no longer in this world, and at the age of 36 he began to hasten to his end, when one day, perchance, a book fell into his hand, seemingly written by a woman's hand, and the tender words went to his heart, comforting him to some extent. This work was written by Lady Barigno, poor and needy as Swammerdam was, and he resolved at once to undertake a pilgrimage to Holstein, in Germany, where this lady resided; after he had seen the mysterious woman, he felt somewhat consoled, and resolved to quit his labors.

He would gladly have led the life of a hermit, to live henceforth for God only, and he resolved to sell his cabinet, his life-long work of research and discoveries, but could find no purchaser in Holland nor France. Now sick and disgusted with all mankind, he retired to a secluded spot in 1680, and never went out; for five years he lived in destitution and want, and in a melancholy fit ordered all his valuable manuscripts burned, and, at the age of 43, Death, as a welcome guest, came at last for his deliverance.

What was the cause of this great man's early death? Deep searching for knowledge, and the sudden revelation of the mysteries of nature befell him unawares with amazement, and when others on his pathway advanced, ascribing to insects a heart and soul, Swammerdam became stunned and frightened, and began to stand still and doubt, and felt that the knowledge which had led him into the channel of discovery, would lead him to something extraordinarily great, which he did not desire to see, and he should not see it, for his eyes were already blinded with the dazzling brilliancy of the era of perfection in apiculture.

But the treasury of this profound thinker and great discoverer was made known many years after his decease (in 1737), though the publishing of his work entitled "the Bible of Nature," in which we see Swammerdam in the light of his glory, with which science and art has endowed a true scholar worthy of praise.

CORRESPONDENCE.

CONVENTIONS.

Suggestions as to the Place of Meeting for the International.

Written for the American Bee Journal
BY ERNEST R. ROOT.

At the Bee-Keepers' Convention at Plum Bay, N. Y., we had a pleasant time. The entire shores of the most beautiful Lake George were covered with historic reminiscences. Mountains rise abruptly out of the water, and the scenery round about is indescribably beautiful. The water is clear—so clear indeed, that objects can be seen sometimes 40 feet beneath the surface. At the point (Plum Bay) where the bee-keepers camped, there is said to be a man-of-war sunk. It lies in a depth of 40 feet of water, and yet I am assured that, on favorable days, its hulk can be quite distinctly seen.

At one end of the lake is Fort William Henry Hotel, on the spot of the old fort of that name, and, at the other end, Ticonderoga. Near by are two or three celebrated battlefields.

I have taken pains to mention some of the natural attractions of Lake George, and now then, to my point:

Two first-class bee-keepers, Messrs. Andrews and Lockhart, own several cottages and a considerable portion of the shore bordering on the southeast. They are very anxious that this camp of bee-keepers should be an annual affair. As it is situated between the New England bee-keepers and the New York State bee-keepers, and is easy of access to some of the most extensive bee-men in the world.

Still further, while we were in camp this time, we were discussing as to whether this might not be a very desirable location for the International Bee-Association, to be held the year after the meeting at Keokuk, Iowa, namely, during the winter of 1891-92. Along with the natural attractions, it is right in the centre (if we except California) of the most extensive bee-country in the world. Not many miles away are bee-keepers owning their 300 and 400 colonies. Then there are Messrs. Elwood, Hetherington, Hoffman, Tunicliff, Larabee, Martin, Manum, Crane, L. C. Root, Knickerbocker, Lockhart and Andrews, and a good many others that are extensive bee-keepers. As it is one of the policies of the International Association to migrate, I merely suggest that it might be well to consider the advisability of holding our next International on the

border-line of the Northeastern States, namely, at some point on Lake George. Mr. Lockhart offers the use of his cottages, and if anybody knows how to entertain bee-keepers, he does. His cottages are right on the shore of a most beautiful bay.

Now, whether we meet at Lake George or not, it seems to me that it is expedient for us to begin to consider the location of the International in 1891-92, so that at the next meeting at Keokuk, the members may be prepared to vote intelligently and understandingly. I told the bee-keepers assembled that I would write to some of the ex-presidents of the Association, and other officers, and learn what they thought of it, and if they all agree that it might be advisable to bring the matter up in print, that Mr. Newman, Mr. Hutchinson and ourselves, would properly present the matter in our respective papers. I send a copy of this letter to Drs. Mason and Miller, Hutchinson, C. P. Dadant, R. L. Taylor, Prof. Cook, and perhaps one or two others.

I was very sorry to miss meeting you personally, Friend Newman, at the "Home of the Honey-Bees." You are a busy man, and it is not often we may have the pleasure of seeing you at our place. The Roots all unite in saying that they enjoyed your visit very much, and express the wish that you may call upon us again.

Medina, Ohio.

[We are very much in favor of holding the next meeting of the International Association at Plum Bay, N. Y., if it can be held during warm weather, and will do all we can to get it located there. We thank Bro. Ernest Root for the suggestion—also for the kind personal allusions to us and our late visit at Medina. The only thing to regret was his absence.—Ed.]

AT TORONTO.

The Awards of Premiums in the Apiarian Department.

Written for the American Bee Journal
BY R. F. HOLTERMANN.

As was anticipated, the competition in this line was unusually keen, the number of entries being as high as nine in some sections, and for the grand sweepstakes, seven. The neatness of display was far ahead of anything heretofore, and almost every exhibitor appeared to have a design different from any one else in his exhibit. Throughout, the judges had a task not to be envied, and with the competition so close it will not be surprising that

some would consider that their own exhibits were more meritorious than the judges did, yet probably no one would say that the judges desired to do aught but what was right—certainly a good indication. The awards were as follows:

Best display of 200 pounds of extracted granulated honey in glass—R. H. Smith, Bracebridge, \$10; J. B. Hall, Woodstock, \$5; John McArthur, Toronto, \$3.

Best display for 500 pounds of liquid extracted honey, of which not less than 250 pounds must be in glass, quality to be considered—Jacob Alpaugh, St. Thomas, \$20; R. F. Holtermann, Romney, \$15; J. B. Hall, Woodstock, \$10.

Best display of 500 pounds of comb honey in sections, quality to be considered—J. B. Hall, Woodstock, \$25; Jacob Alpaugh, St. Thomas, \$20; John Davidson, Unionville, \$12; Wm. Goodyear, Woodstock, \$8.

Best display of 20 pounds of comb honey in sections, quality to be considered, that is to say, clean sections and best filled—J. B. Hall, Woodstock, \$10; Will Ellis, St. Davids, \$6; Jacob Alpaugh, St. Thomas, \$4; Wm. Goodyear, Woodstock, \$2.

Best display of 100 pounds of extracted liquid linden honey in glass, quality to be considered—Geo. Laing, Milton, \$8; J. B. Hall, Woodstock, \$5; Wm. Goodyear, Woodstock, \$5.

Best display of 100 pounds of extracted liquid clover honey in glass, quality considered—R. F. Holtermann, Romney, \$8; Geo. Laing, Milton, \$5; J. McArthur, Toronto, \$3.

Best beeswax, not less than 10 pounds (manufacturers of comb foundation excluded)—Jacob Alpaugh, \$6; R. F. Holtermann, \$4; J. McArthur, \$2.

Best foundation for brood-chamber—Will Ellis, \$3.

Best foundation for sections—Will Ellis, \$3.

Apiarian supplies—E. L. Goold & Co., Brantford, silver medal.

Best style and assortment of tins for retailing extracted honey—E. L. Goold & Co., silver medal; R. H. Smith, bronze medal.

Best style and assortment of glass for retailing extracted honey—Jacob Spence, Toronto, silver medal; R. H. Smith, bronze medal.

Best section super for top story and system of manipulating, product to be exhibited in super as left by the bees—J. B. Hall, \$3; Jacob Alpaugh, \$2; R. H. Smith, \$1.

Best and most practical new invention for the apiarist, never shown before at this Exhibition—Jacob Alpaugh, \$5; George Laing, \$3; R. H. Smith, \$2.

Largest and best variety of uses to which honey may be put, illustrated by individual samples of the different things into which it enters as a component; for example, say one or two samples each in canned fruits, cakes, pastry, meats, vinegar, etc.—R. H. Smith, \$8; R. F. Holtermann, \$5; Geo. Laing, \$3.

Best and most useful queen-nursery cage—Jacob Alpaugh, \$2.

For most tasty and neatly arranged exhibit of honey in the Apiarian Department, all the honey to be the production of the exhibitor. Twenty dollars of this prize is given by the Ontario Bee-Keepers' Association—J. B. Hall, \$35; R. F. Holtermann, \$7.50; Jacob Alpaugh, \$7.50; John Davidson, \$5; Geo. Laing, \$5.

The judges appeared to have extreme difficulty in awarding the last prize, and certainly the task was not an easy one. The quantity of honey

in the building would at an estimate probably be about 20,000 pounds—12,000 pounds of extracted, and 8,000 pounds of comb honey. The majority was a mixture of clover, thistle and basswood.

Romney, Ont.

EGGS

Deposited by the Queen in the Queen-Cells.

Written for the American Bee Journal

BY E. L. PRATT.

I am thoroughly satisfied now that I was correct in my ideas about the queen depositing eggs in queen-cells.

One of our best queens is being superseded, and we have been saving the cells as fast as constructed. We have been furnishing the colony with cell-cups attached to bars, as with our regular system of queen-rearing. Twice we have caught this queen in the act of laying an egg in the cell-cups furnished, and many times have we seen her on the bar, surrounded with workers, which seemed to be coaxing her to a very difficult task. She would approach a cell-cup, peep into it, and pass on to the next in about the same manner as she would act on the combs when laying in worker-cells.

About the same amount of time was used in depositing the egg, when she was ready to do so, as is generally consumed in her regular duty, but she seemed loth to lay at first. After a little coaxing by the routine of workers, she thrust her abdomen into the cell, and withdrew it in a few seconds, leaving a new, shining, white egg, nicely affixed to the bottom of the cell. Where rivalry commences is after the queen-cells are completed. A queen will quickly destroy all unprotected capped cells.

We have had queens roam about an upper story containing a batch of cells, without molesting a single one—simply because they were not finished. When bees are superseding a queen, the finished cells are carefully guarded, the same as when after-swarming is about to take place. When eggs are removed to cells by the workers they are not glued, as the queen always does it, but are simply laid into cell-cups, and left until hatched, when they will be cared for in the regular way by the workers.

At swarming time I do not think that the queen objects to the laying of eggs in cell-cups, for she knows she will not remain to quarrel with the queen that comes from it. I have never seen a swarming colony's queen deposit eggs in queen-cells, but I have

very often noticed that they were attached to the bottom in the usual manner.

I think that I am justified in making the statement that when there is a queen present in the hive, the eggs are always laid in the queen-cell cups by the queen; but when there is no queen, the workers attend to that part of the work when eggs are not available, or there is no larvæ of the correct age in the combs. Who knows but what the poor, destitute little bees borrow the paltry wherewithal to sustain life from their neighbors? I believe they do.

Marlboro, Mass.

BEE-ESCAPES.

The History of their Invention and Practical Use.

Written for the American Bee Journal
BY S. A. SHUCK.

A very interesting history, together with the illustrations and instructions for making bee-escapes, may be found in *Gleanings in Bee-Culture*, on pages 15, 200, 533, 681, 765 and 838 for 1888; and pages 735 and 857 for 1889. Suffice it to say here, that the credit of introducing bee-escapes for the purpose of freeing surplus receptacles of bees before removing them from the hives, belongs to Mr. J. S. Reese, of Kentucky; however, it appears that Mr. H. R. Boardman, of Ohio, had used escapes for the same purpose some two years before.

Mr. Boardman attached his escapes in a horizontal position to the outside of the supers, and permitted the bees to pass out into the open air; while Mr. Reese placed his escape in a perpendicular position with the point down, allowing the bees to pass into an empty super placed between the brood-chamber and the surplus receptacle to be freed of bees. Both of these plans worked reasonably well, but were inconvenient in their application; and, in further efforts to perfect this device, it appears that Mr. Reese, and Mr. C. H. Dibbern, of Illinois, at about the same time, attached a horizontal escape to a plain board to be placed between the super and the hive below. Mr. Reese afterwards inserted the escape in the board in such a way as not to occupy and space above or below it.

Concerning this arrangement, Mr. Dibbern says: "I admit that yours is an ingenious arrangement—something that I tried to conceive, but failed" (see January *Gleanings*, page 6). However, it appears since, that Mr. D. has claimed the invention, and after a hasty trial in the fall, winter and spring of 1889-90, he advertised and

sold hundreds of these escapes. (See page 80 of the *Western Plowman* for 1890.) But it was found in testing these devices during the working season, that they are unsatisfactory. (See the *Bee-Keepers' Review* for July, and the *AMERICAN BEE JOURNAL* for June 28, 1890.)

It appears that Mr. Dibbern has corresponded far and near, securing patterns of all the escapes invented or tried by other bee-keepers, so far as he was able to do so, and from these he claims to have originated something new—an escape that is perfect. Of this new device the inventor says:

"I have cleaned the bees out of hives that were used as upper stories, and in which they were storing honey, in just two hours. It cleaned out every bee." He further says: "I have emptied numerous supers in which the bees had commenced work, also full hives used as supers over strong colonies. In no instance were there more than a dozen bees left after the escape had been on three hours."

While I shall not attempt to dispute Mr. D's statements as to the time required to clear the bees out of his supers, so far as he has experimented, I do wish to say that if he intends that we shall infer that his escape will do this as a rule throughout the working season, we must have a different race of bees from anything that has ever been tried in this country. No, there is no race of bees known that will quit any part of their domicile in so short a time, except where they are actually driven out.

I have used bee-escapes all summer—escapes, too, that I consider as satisfactory in their application as an apicultural device, as modern surplus arrangements or bee-smokers. I have taken off over 1,600 pounds of comb honey with as little inconvenience and less trouble with bees in my honey-house, than I usually experience in taking off a hundred pounds; and while in a few instances the supers have been cleared in a couple or three hours, in most instances it requires from two to four times that long, owing to the condition of the weather, and the quantity of bees in the hives, etc.

When it comes to forcing bees by means of an escape, out of well-filled supers, when the hive is so full below that a portion of the bees must hang outside at a temperature of 80°, Mr. D. will find that it will take three times three hours.

Concerning Mr. D's new escape, in closing he says: "It is to be hoped, however, that not more than a dozen will claim that they invented this new escape 'about the same time' I did." I cannot see why Mr. D. should have

made such a statement, unless he would that others should not do as he has done; and lest he should want to charge me with being the first one of that "dozen," I will say here that I know nothing about any of his escapes, except that "Double-cone-wire-cloth-soldered-on-tin-now-perfect-get-one-and-get-it-just-right-bee-escape"—one of which a bee-keeping friend offered me for trial, but my faith was wanting, and I refused to give it a trial.

I have three different patterns in use—one cone. Two are entirely new and different from anything yet brought before the public; and to further assure Mr. D. that I shall not lay claim to any of his property, I will state that I am not the inventor of the escapes that I am using; and to show that the inventor is not disposed to lay any claim to Mr. D's escape, the ones I have here are small—about 1½ by 2½ inches—I can carry a half dozen of them in my pocket, and as Mr. D's is some 4 by 6 inches, I trust that he will not lose any sleep by thinking that I am trying to claim his new invention.

CLIPPING WINGS.

Various Ways of Clipping the Wings of Queens.

Written for the American Bee Journal
BY FRANK COVERDALE.

The clipping of queens' wings has been objected to by some of our most prominent bee-keepers, and that for different reasons, namely, that the practice causes many of the queens to be superseded, and again, when the bees swarm, the queen (if one is not there) is apt to hobble off in the grass and be lost. Both of these reasons would indeed be very objectionable, that is, if true.

When I first began to clip my queens' wings, I, too, found some difficulty. One thing I did notice was, that some of my queens ceased to be prolific for several days after being clipped, and some would be missing. This state of affairs did not suit me, so I worked to find out the cause of this failure, and by continual practice I became master of the situation, and that there was no need of having my queens die, lose their prolificness, or be superseded on account of their wings being clipped.

My first lesson was on a fine, large, black queen. I picked her up with my left finger and thumb, and with a common pair of tailor shears, I clipped off three-fourths of one wing, and let her go. In about one week the hive was opened, and the queen was found to be all right, but she had not laid many eggs—not over one-third

her usual amount, though in two weeks more she became as prolific as ever. This gave me strong evidence that her wing had been clipped too short, or in some way hurt, though I still clipped more almost as short, and once in a while the same trouble would occur, and often lose my queens (about one in ever ten).

So I began to clip differently, for there are tall trees about my apiary, and I do not like the fun of climbing 30 or 40 feet up into a tree after swarms of bees. I was prompted to still go on with the clipping. I began to think this: Why cannot I clip off the fan part of one wing, and leave the rib untouched? My queens were after this clipped in that fashion, and I have yet to lose one queen, or have one superseded because of being thus clipped.

We have been directed to clip both wings, the main reason for this being claimed that the queen will be found more easily while crawling on the comb amongst other bees. This is true, but there is another point that I think over-balances this, and prompts me to clip but one wing.

Perhaps some of the readers have been out hunting prairie chickens, and shot one, breaking one wing, and when attempting to fly, the sound wing will turn the chicken right around with its head towards the hunter. Then, again, crop the wing of a goose, throw it up in the air, and it will flop itself around; clip both wings, and the bird will hold straight ahead, until it falls to the ground, twice the distance away. It is just the same with a queen when swarming. If one wing only is clipped, when attempting to fly, the sound wing will turn her around, where if both were clipped alike, the queen would balance and go straight ahead, perhaps thinking that she would finally fly, thus greatly endangering her when the apiarist is not present.

Welton, Iowa.

AT WORK.

What is Going on in the Corner of the Garden.

Written for the Mass. Ploughman

BY GEO. A. STOCKWELL.

A tree overhangs and shades, and its branches bending down meet the scarlet runner and morning-glory twining up. The broad and beaming faces of Russian sunflowers make apples of gold in a picture of many colors, and a gourd running a race with the Lima bean, has begun to display its club of Hercules.

In this embowered nook is a colony of bees—the golden-tipped Italians—a hundred thousand strong. A hive, two stories and a half, is their domicile and workshop, and at this time (July 5) there is business of importance in this workshop, for the basswood cups are full and running over with light, amber nectar, rich in substance and aromatic in honey-flavor of the fairest hue and reputation.

The basswood plants, or trees, are great music boxes now giving forth the hum of a thousand or ten thousand bees, as they swarm in and out to drain the nectar from overflowing cups. A delightful melody it is, a gentle, soothing symphony. If you listen with an ear musically critical, you may catch the major and minor chords in the beautifully blended bee-chorus.

But the home of the workers a hundred thousand strong is in the shady angle of the garden. As you approach it, a streak of gold appears extending out from the entrance of the hive till the eye loses it. The bees coming in many directions, fall into line six feet in front of the hive, and together rush to the entrance, a steady stream in, a steady stream out.

Faster than the eye can count, the bees fall upon the alighting-board, and hurry within. A few drones stand upon the board stretching their legs and wings, and occasionally one approaches an in-coming bee, and thrusts out his tongue to be fed, for drones are too lazy to feed themselves, if any are willing to help, but the workers thrust them aside, jostle them, climb over them, saying plainly, "Get out of the way. Help yourself. No time to wait on you to-day."

With the honey-gatherers come the bees with pollen, their pockets or baskets full. What a falling of colors in stuffed baskets! blue pollen, yellow pollen, white pollen, pollen pink, red, orange, gray, black—a shower of brilliant pigments, disappearing in the hive.

We open the hive without disturbing the bees, except by the admission of light. It is a wonderful sight. Thousands of bees working "like mad," and yet in harmony without confusion and with precision and dispatch. Here are bees depositing honey, pumping it out of their honey-sacs—there are bees unloading their pollen-baskets, there is one tugging at a pellet of pollen that does not come out of its pocket easily. Another bee, a pollen-packer, hurries up to assist, and the operation reminds one of a man attempting to pull off another man's boots. Well, it's off already, and the bit of pollen falls into a cell.

The pollen-packer evidently is the overseer of this part of the industry,

for there comes a bee with both pockets full of orange pollen, and is about to unload, when up rushes the head pollen-packer, and pushes him on further, which says plain enough, "Not in that cell, put it in this." The bee obeys and hurries away for more. The pollen-packer then dives head first into the cell which the pollen was deposited, and packs it, evidently using his head as a tamper, for the bee moves up and down as if he was throwing himself against that pellet of pollen to pack it hard.

The honey and the pollen-gatherers make only a part of this great force of workers. This is the "height" of the season, and the queen now enters upon her "great laying feat," laying two or three thousand eggs in 24 hours, and hence, if 3,000 eggs be laid to-day, 3,000 eggs will hatch in three days, and 3,000 full grown bees will walk forth from their cells in 21 days.

When the egg is deposited in the cell, a drop of honey is placed with it, so that the egg floats in it, or is surrounded by it. Thus is the table spread for the bee as soon as it breaks the shell. But as soon as the drop of honey is exhausted, the larvæ must be fed. The feeding of the thousands of young bees requires an army of nurses. The young bees are fed on "bee-bread," a mixture of honey and pollen, and if the nurses be not bread mixers or bread makers, then there must be an army of bread makers.

Besides all these workers there are builders—the builders of comb. The honey and the pollen gatherers climb over them, jostle them, and they are often under two or three deep, yet they are not disturbed, apparently, and continue their work of forming comb and cells from wax that exudes from their own bodies. The wax comes forth in little scales between the joints of the body. The bee dislodges these scales by the aid of muscular contraction and its six feet or hands, and after manipulating it, places it in position.

In addition to all these forces of the hive, there is another equally important, namely, the force of fanners. Thousands of bees are stationed throughout the hive to fan with their wings to create a draft, and to prevent the hive from becoming overheated.

In this great throng of busy workers moves the queen—the jewel of the colony—aye, a jewel of marvelous beauty, of burnished gold and bronze, her wings appearing like the most exquisite, the finest gold lace. As she moves in the throng the bees fall back, and stand facing her as she passes, many caressing her. But as she passes none follow. There is a momentary pause in that part of the workshop,

and then to work, too busy to loiter, but not too busy to pay respectful homage to their sovereign.

It may be supposed that the area of the queen's dominion is contracted so narrow, that she is practically with the entire colony all the time. This is not the fact. In this hive there is an area of more than 56 square feet of comb. The queen going from the outside comb on the lower tier, crossing every comb lengthwise, must travel 81 feet. Therefore a visit to every part of her dominion may not be a daily occurrence.

But in these sunny days when the bee is such a tireless worker that its span of life is only four or five weeks, the honey flows, the bees pour it into the hive, the honey from the basswood (linden) trees; the trees throughout the country are in bloom, and secreting more honey than bees in any force can gather, and if you listen under the trees, you will hear the hum of the gatherers.

SWARMING.

Manipulation to Prevent Natural Increase of Bees.

Written for the American Bee Journal
by J. W. TEFFT.

Mr. Geo. F. Robbins, on page 312, says that he doubts my ability to perform, or rather keep my bees from swarming, etc.

On July 4 I manipulated 23 strong colonies, and examined some others. That was the first day this season that I had found a bit of new comb or sealed new honey, and things began to look bright once more.

Now it may, and it may not, be of interest to Mr. Robbins, or others, to tell them how I prepare strong colonies for honey, and to keep them at it until after the honey harvest without swarming. At the start I will state that my brood-chambers hold 12 1½-inch wide frames, 2 partition boards, and a 1-inch space outside of that for ventilation space, as the division-boards are bee-space above the bottom-board. Each colony has 10 frames for brood, and 2 for side storing in this way. I reversed all the brood-combs containing eggs and unsealed brood—the ripe, sealed brood did not require reversing. I drew from the brood-chambers two frames of ripe brood, bees and all, and placed them in the surplus chamber, then with a separator on the outside of the brood, I place the sections; this gives the colony 12 frames in the brood-chambers, and 6 in the surplus chambers. Six of the frames contain sections—48 ¾-pound.

As to the future management, providing there is a honey season, things become lively, the bees are storing honey, and the young bees are all hatched out of the two frames in the surplus chamber, I remove and extract the honey to have the combs empty to replace in the centre of the brood-nest. At the same operation I lift the two frames of side-storing sections, bees and all, to the surplus chambers; this operation wedges the brood apart, and at the same time keeps the surplus chamber full, and side-storing sections on all the season through. For instance, if I draw a frame of honey, I put in a frame of empty comb in the centre of the brood-chamber, and lift a frame, bees and all, to the surplus chamber. This method of management enables me to keep a large, powerful colony, storing honey in one hive, and I have but one hive to manipulate, where I had to manipulate 4 hives to obtain the same results. The system pleases me very much. Why, just think of it—23 colonies manipulated in less than three hours, and I had to nail up some sections at that.

You see there is a point gained by having frames space themselves, and not have to fuss to space by the eyes. Just think a moment—23 strong colonies containing 414 frames, and handling them all in so short a time! This wedging the brood-chamber apart, and removing outside combs of the brood-chamber to the surplus chamber, and removing honey at the same time, is all right, providing one understands reversing combs at the proper time to have the sections finished at all points. There is no mistake about the system, at all.

Buffalo, N. Y.

Doolittle on Queen-Rearing.

Queens can be reared in the upper stories of hives used for extracted honey, where a queen-excluding honey-board is used, which are as good, if not superior, to Queens reared by any other process; and that, too, while the old Queen is doing duty below, just the same as though Queens were not being reared above. This is a fact, though it is not generally known.

If you desire to know how this can be done—how to have Queens fertilized in upper stories, while the old Queen is laying below—how you may safely introduce any Queen, at any time of the year when bees can fly—all about the different races of bees—all about shipping Queens, queen-cages, candy for queen-cages, etc.—all about forming nuclei, multiplying or uniting bees, or weak colonies, etc.; or, in fact everything about the queen-business which you may want to know, send for "Doolittle's Scientific Queen-Rearing;" a book of 170 pages, which is nicely bound in cloth, and as interesting as a story. Price, \$1.00.

CONVENTION DIRECTORY.

1890. Time and place of meeting.

- Sept. 26.—Capital, at Springfield, Ill.
C. E. Yocom, Sec., Sherman, Ill.
Oct. 8.—S. W. Wisconsin, at Platteville, Wis.
B. Rice, Sec., Boscobel, Wis.
Oct. 10, 11.—Union, at Hamilton, Ill.
Daniel Shank, Sec., Clayton, Ill.
Oct. 15.—Central Michigan, at Lansing, Mich.
W. A. Barnes, Sec., Lansing, Mich.
Oct. 29-31.—International American, at Keokuk, Ia.
C. P. Dadant, Sec., Hamilton, Ill.
Oct. 30.—Turkey Hill, at Wilderman's Sta., Ill.
A. Fehr, Sec., Belleville, Ill.
1891.
Jan. 1.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.
May 7.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Hartford, Pa.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

International Bee-Association.

PRESIDENT—Hon. R. L. Taylor, Lapeer, Mich.
SECRETARY—C. P. Dadant, Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon, Dowagiac, Mich.
SEC'Y. AND MANAGER—T. G. Newman, Chicago

SELECTIONS FROM OUR LETTER BOX

Sour Honey—Pond Lilies.

I have some poplar honey that I extracted last spring, that is slightly soured. Will it hurt the bees to feed back this fall? I winter my bees in the cellar. What was the cause of it becoming sour? It was sealed up when I extracted it. Will heating it have any effect on it? Also, do pond-lilies that grow in marshes, produce any honey?
C. REYNOLDS.

Fremont, O., Sept. 11, 1890.

[To give the bees the sour honey is the best thing that can be done with it. They will put it to a good use. The cause of its becoming sour would be difficult to state without examining it. It might have been thin and "watery," if the season was wet in your locality. The bees will seal up such honey just as readily as when it is thicker. Heating it will sometimes sweeten it, but care must be taken not to heat it too much, or the flavor will be "wanting." We do not think that pond-lilies yield much honey, if any at all. They have never been reported among honey-producers.—Ed.]

Results in Testing Carniolans.

Having read quite a number of articles praising the superior qualities of Carniolan bees much more than they deserve, and, what is noticeable, not a line from any of the veteran honey-producers, but from beginners and those who have queens for sale, it seems to me that those who have found them superior to the Italians must have had very poor Italians, or must have had a very limited experience.

In the spring of 1889, in the hope that they were a valuable acquisition, I resolved to give them a fair trial. I purchased 5 queens from some of the most

noted breeders, and if any one of the queens was pure they were all pure, as they were all alike, and of their purity I have no doubt. I reared several hybrids, and had a few purely mated queens from them. Now for the results:

When compared with the best Italians, they are very cross; the hybrids the same. In April their brood-nest was less than half that of the Italians; in May they bred rapidly, and were the first to make preparations to swarm, though only having about seven-eighths as much brood as the Italians. They swarm much worse than the Italians, especially in July and August, when little or no honey is being gathered, having to be fed, or starve. They are stronger to winter, from the fact that they breed more in the hot weather of July and August, and when they are not getting honey. The Italians require more care to keep the brood-nest strong in the fall, or when honey is coming in very freely. The Carniolans got about two-thirds as much honey for me as the Italians—in fact, I find them inferior in my locality in every desirable trait.

As to their wintering, I can say nothing from experience, both races having wintered perfectly without loss—25 Carniolan and hybrid colonies, and 146 Italian colonies. I keep none but strong colonies, and work them for honey, allowing no increase. I have been producing honey for 20 years, and I think that I have had enough experience to judge fairly between the different races, having produced about 200,000 pounds in that time. I have totally and forever discarded the Carniolans—at least in this locality; and I have no queens of any kind for sale. My advice to those who desire testing the above race is, to go slow and not waste much money until you know that you are right.

Deer Park, Mo.

E. C. L. LARCH.

An Enthusiastic Bee-Man.

I began a year ago with one colony, and now I have five. They are hybrids, and good workers. I am very enthusiastic, and try to learn all about them that I can from the papers, and the BEE JOURNAL makes very plain a good many things that were hard to understand.

S. M. PARKER.

Lohrville, Iowa, Sept. 12, 1890.

Bloom Failing to Secrete Nectar.

I have read Mr. Theilmann's article on page 602, and I now want to try to tell some of my experiences and observations on the cause of flowers failing to secrete nectar in some years. Most bee-men think that electricity has everything to do with the secretion of nectar. I can say (and know what I am talking about) that it does not have anything to do with the secretion of nectar. I have proof that proves beyond a doubt that this is correct.

Where I live there is plenty of linden, sourwood, and what is called "mountain ivy"—I do not know its botanical name—but I know that when the ivy has any honey, sourwood and linden will fail to have honey without doubt. The ivy blooms first, and but two weeks before linden, and four or five weeks before sourwood. If ivy fails to have any honey, linden and sourwood will have honey, as certain as it blooms. Let every bee-man that lives where linden, sourwood and ivy abound, watch carefully, and they will see that the above is true.

All flowers that bloom or open like linden, sourwood, apples, peaches, cherries, etc., have the honey in them before they bloom—if it is not there before the flower opens, it will not be there at all. Any bee-man can test that to his own satisfaction.

Any weather that seems to stop the flow of nectar, that is so cool that it checks or stops the flowers from opening, or is so hot that it dries the nectar up in the flowers: such a storm or rain as Mr. Theilmann speaks of first washes all the honey out of the flowers, and then it generally turns cool, and nearly stops the flowers from putting forth for a few days, nearly as fast as they do when warm weather prevails.

Mr. Theilmann thinks that a good honey-flow and bark-lice are connected in some way. It is just the reverse here to what it is with Mr. T. A poor honey season here is the time that the aphides put in an appearance. It has been that way ever since I have been in the bee-business, which is 13 years.

I have seen the bark-lice eject the honey from them lots of times. I have seen it come from different kinds; some have wings, and some do not. Those that have wings do not have any until full grown, and then they fly away; but there is another sort that have no wings, and are about the size and shape of a grain of coffee, and the color of the bark. The honey comes out of them on their backs, and small drops come out about once in every minute, and keep right on in that way. The small drops come out and stay about long enough to be seen, when, with some power of their own, the aphides throw off the drops at a right angle behind.

SAMUEL WILSON.

Cosby, Tenn., Sept. 11, 1890.

A Species of Spanish-Needle.

I send by this mail a few flowers of what we call Spanish-needle in this locality. Whole fields of 40 to 80 acres that were sown to wheat and oats are a perfect yellow mat of these flowers. I would like to know if there is more than one variety of this plant. Is it not possible that some of our bee-keepers get this plant and golden-rod a "little mixed?" That is, call this flower "golden-rod," and vice versa. I think that the above, to some extent, accounts for the great diversity of opinion among bee-keepers, as to the value of the golden-rod as a honey-plant. If I ever saw a golden-rod plant or flower, I do not know it—there is none here, or else it is called by a different name.

The flowers I send are the best honey-yielding flowers we have—colonies often gathering a surplus of 100 to 150 pounds each of fine, rich, yellow honey, from this plant alone. The white honey crop was almost a failure here. I got a surplus of about 15 pounds per colony. My fall crop will be about 40 pounds, per colony, of extracted honey.

BYRON IAMS.

Worcester, Mo., Sept. 8, 1890.

Prof. C. M. Weed replies to the above as follows:

The specimen sent differs slightly from Spanish-needle (*Bidens frondosa*), but is that species rather than any other. It probably is a hybrid between *B. frondosa* and some species of coreopsis.—C. M. WEED.

Experience with Bees, Wintering

Three years ago last spring I commenced with 3 colonies, increased them to 7, sold 2 swarms, and took 300 pounds of honey. The second year they increased to 19, and I took over 600 pounds of comb honey. The third spring one colony swarmed out, and one was queenless, which left me 17; they increased to 42, and I took over 1,500 pounds of honey. Last spring I put out 42, one swarmed out, and some were weak, and May was cold and dry, so I doubled up until it left 36 strong colonies, increased to

67; I sold 4 swarms, and I have taken off 1,000 pounds of basswood honey, and there is about 1,000 pounds of fall honey. Fully half of the basswood did not bloom at all, so we will not have more than 1/4 of a crop.

I never have lost a colony in winter. Somebody says that a bee cellar must be a bee-cellar. I could not get all of my bees into my cellar last winter; it is only a hole 10 feet square under my log house, with an outer doorway to go in. I have always wintered my bees in it with my winter supply of garden-truck. Last winter I had 28 colonies of bees, and 30 bushels of potatoes, besides meat, vinegar and soap barrels, and a lot of garden-truck, so I could not get down on the bottom of the cellar. We go down through a trap-door in the floor, and some one went down about every day after something. I leave the entrance just the same as when on the summer stands, and pack a surplus case of dry leaves and put it on top. I dug a hole in the ground 2 feet deep, and just large enough to let the other 14 colonies in, and made a tight cover with boards, and covered them up with dirt, leaving a hole in the center 6 inches square, for ventilation. I also put a hole through the outer door cellar-way, that I could open and close to cool the cellar. I kept it at about 40 to 45 degrees, and I saw no difference between those in the cellar and those in the cave. The cellar is always dry.

The bees are working on golden-rod and wild sunflowers now. The AMERICAN BEE JOURNAL has been worth \$50 to me in the last two seasons.

GEO. H. ACRINGER.

Bonniwell's Mills, Minn., Sept. 13, 1890.

Bees Gathered Little Honey.

Bees have done very little here the past season, considering that there is lots of clover (white, red and Alsike), and that my 12 colonies came out in good condition last spring, with one exception. I do not understand why they have done no better. I sowed four acres of Japanese buckwheat that bloomed profusely, and the bees worked on it continuously, still I have several old colonies that have not stored an ounce of honey in the sections. What honey I got last year and this, came from new colonies. Bees here the past season took a great notion to abscond. I lost 3 colonies that I know of, and I think that many others left—it was the general complaint. I have come to the conclusion that bees for profit in this place is a poor business. I wintered my bees out-of-doors last winter, and packed barley-straw and chaff around them, except in front, where I placed a wide board; but it took me nearly all summer to get them far enough from each other to work about them. Will some one tell me at what time in the spring to put the bees out of their winter shelter without injury? If so, it will relieve me from quite a quandary.

WM. M. MAXWELL.

Oakland, Iowa, Sept. 15, 1890.

Susquehanna County Convention

The Susquehanna County Bee-Keepers' Association met at the graded school building at Springville, Pa., on Saturday, Sept. 13, 1890, with a good attendance, considering the weather. In place of a regular programme, those present were invited to ask for information upon any points which they did not understand. All questions asked were fully and freely discussed, in which discussions we were ably assisted by prominent bee-keepers from adjoining counties. All present departed for their homes feeling that the meeting had been both a pleasant and profitable one.

Harford, Pa.

H. M. SEELEY, Sec.



ALFRED H. NEWMAN,
BUSINESS MANAGER.

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Send us one new subscription, with \$1.00, and we will present you with a nice Pocket Dictionary.

Red Labels are nice for Pails which hold from 1 to 10 lbs. of honey. Price \$1.00 per hundred, with name and address printed. Sample free.

Calvert's No. 1 Phenol, mentioned in *Cheshire's Pamphlet* on pages 16 and 17, as a cure for foul brood, can be procured at this office at 25 cents per ounce, by express.

Send us two new subscriptions, with \$2.00, and we will present you with a "Globe" Bee-Veil for your trouble. (See the fuller notice in the advertising columns.)

The date on the wrapper-label of this paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to advance that date another year.

Please send us the names of your neighbors who keep bees, and we will send them sample copies of the *BEE JOURNAL*. Then please call upon them and get them to subscribe with you.

Any of the Political Dollar Weekly Newspapers will be clubbed with our *JOURNAL* at \$1.85 for the two; or with both our *HOME JOURNAL* and *BEE JOURNAL* for \$2.25 for all three papers.

As there is another firm of "Newman & Son" in this city, our letters sometimes get mixed. Please write *American Bee Journal* on the corner of your envelopes to save confusion and delay.

Systematic work in the Apiary will pay. Use the *Apiary Register*. Its cost is trifling. Prices:

For 50 colonies (120 pages)	\$1 00
" 100 colonies (220 pages)	1 25
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A "Binder" made especially for the *AMERICAN BEE JOURNAL*, and lettered in gold, makes a very convenient way of preserving the copies of the *BEE JOURNAL* as fast as they are received. We offer it, postpaid, for 60 cents; or as a premium for two new subscriptions, with \$2.00. It cannot be mailed to Canada.

HONEY AND BEESWAX MARKET.

DENVER, Sept. 15.—We quote: 1-lbs., first grade, 16@18c. Beeswax, 20@25c.
J. M. CLARK COM. CO., 1517 Blake St.

BOSTON, Sept. 20.—We quote best white clover 1-lbs. at 17@18c.; 2-lbs., 15@16c. Extracted, 7@9c. No beeswax on hand.
BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK, Sept. 12.—Honey is in excellent demand, and finds ready sale at the following prices: Fancy white 1-lbs., 16@18c; same, 2-lbs., 14@15c; off-grades, 1-lbs., 13@15c; same, 2-lbs., 12@13c; buckwheat, 1-lbs., 11@12c; same, 2-lbs., 10@11c. Extracted, clover and basswood, 8c; buckwheat, 6c; California, 6@7c. HILDRETH BROS. & SEGELKEN, 28-30 West Broadway.

CHICAGO, Sept. 10.—Honey has sold well of late, despite the higher range of prices—17@18c being the value of white comb in 1-pound sections, and sells upon arrival; the weather being cool, a brisk trade is now being experienced. Extracted also sells quickly at 7@8c in barrels and cases. Supply fair.
R. A. BURNETT, 161 S. Water St.

KANSAS CITY, Sept. 20.—Demand for comb honey continues good, but supply light. We quote: Choice white 1-lbs., 16@18c.; light 1-lbs., 14@16c.; dark 1-lbs., 10@12c. Extracted white, 6@7c.; dark, 5@6c. Beeswax, 25c.
CLEMONS, MASON & CO., Cor. 4th and Walnut Sts.

CHICAGO, Sept. 10.—New honey arriving very slowly, demand active, and all receipts are taken promptly. We quote: White clover 1-lbs., 16@18c.; 2-lbs., 14@15c.; dark 1-lbs., 11@12c.; 2-lbs., 9@10c. Extracted meets with quick sale, values ranging from 6@7 1/2 cts., depending upon quality and style of package. Beeswax, 28@30c.
S. T. FISH & CO., 189 S. Water St.

KANSAS CITY, Sept. 11.—Demand for comb honey is larger than the receipts. We quote: White 1-lbs., 16c.; 2-lbs., 14c. Dark 1-lbs., 13c.; 2-lbs., 12c. Extracted, white, 7c.; dark, 5@6c. No beeswax on the market.
HAMLIN & BEARSS, 514 Walnut St.

DETROIT, Sept. 10.—Comb honey is selling at 14@16c; very little in the market. Extracted, 7@8c. Beeswax, 26c for good.
M. H. HUNT, Bell Branch, Mich.

CINCINNATI, Sept. 8.—Honey of all kinds is scarce. There is almost no comb honey in this city. But what is of greater importance is, that we have hardly enough extracted honey to supply our manufacturing customers. The "hold-on" doctrine is bad policy, as we are sure to be overstocked again about Christmas time. Such has been the case generally, and is likely to repeat itself in a great country like ours. Choice comb honey would bring 15@16c. Extracted brings 5@8c. Beeswax is in good demand at 24@26c for good to choice yellow.
C. F. MUTH & SON, Corner Freeman & Central Aves.

Posters for the AMERICAN BEE JOURNAL, printed in two colors, will be sent free to all who can use them. They are handsome, and will "set off" an exhibit at Fairs. It will tell bee-keepers how to subscribe, for "Subscriptions Received Here" is quite prominent at the bottom.

We will also send sample copies of the *BEE JOURNAL*, for use at Fairs, if notified a week or ten days in advance where to send.

Thirty Years Among the Bees is the title of a new illustrated pamphlet of 75 pages, by Henry Alley. It gives the results of the 30 years' experience of the author in rearing Queen-Bees, with all the latest methods brought down to the present time. Price, 50 cents. For sale at this office.

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The engraving shows STRAIGHT TIN PAIRS, of which there are 3 sizes, holding respectively 3, 5 and 10 lbs. of Honey. Assorted Samples of the 3 sizes will be sent by express for 40 cts. In quantities, the prices are:

	Per doz.	Per 100
Gallon... holds 10 lbs.	\$1.80	\$12.00
1/2-Gallon, holds 5 lbs.	1.50	9.00
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The second engraving represents THE TAPERING TIN PAIRS—made heavier and stronger than those with straight sides. The covers are deeper, and the top-edge of the Pail is doubled over, making it smooth and convenient to handle. Of the Tapering Pails there are five sizes, viz: 1-lb., 4-lb., 7-lb., 13-lb., and 25-lb. Assorted Samples of these will be shipped by express for 75 cents. In quantities, the prices are as follows:

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Per dozen, \$.75	1.25	1.50	2.00	3.25
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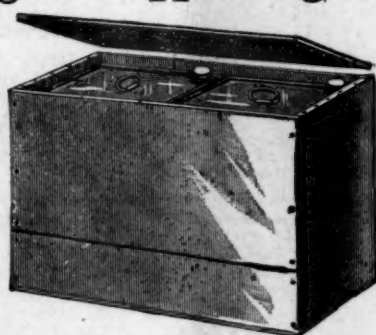
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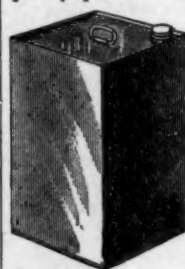
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1 Single Can... (boxed).....\$.45

12 " Cans... ".....5.00

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12 boxes ".....8.40

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